

IN THE CLAIMS:

1. (Currently amended) A method for patterning an optical element, comprising the steps of:

providing a lower mold with a carrier face and a plurality of cooling pipes;

positioning said optical element on said carrier face of said lower mold;

providing an upper mold above said optical element, said upper mold having a pressing face, a plurality of protrusions with pre-determined patterns on said pressing face, and a heater;

heating said upper mold by said heaters;

thermally pressing down said upper mold so as to insert said protrusions into said optical element[[:]] and simultaneously cooling said optical element by said cooling pipes; and

separating said upper mold from said optical element for forming a plurality of patterns corresponding to said protrusions on said optical element.

2. (Canceled)

3. (Previously presented) The method of Claim 1, wherein said optical element is positioned and fixed on said carrier face of said lower mold by a holding component.

4. (Original) The method of Claim 1, wherein said upper mold is operated at a thermal pressing temperature during the thermal pressing step, and the thermal pressing

temperature is the melting temperature of said optical element.

5. (Original) The method of Claim 1, wherein said upper mold is driven by a driving device during the thermal press step, and said driving device is mounted with said upper mold.

6. (Original) The method of Claim 1, wherein said optical element is a light guiding plate.

7. (Original) The method of Claim 1, wherein said optical element is made of acrylic materials.

8. (Original) The method of Claim 1, wherein said optical element is a diffusing sheet.

9. (Previously presented) The method of Claim 1, wherein said upper mold is made of copper alloy.

10. (Previously presented) The method of Claim 1, wherein said protrusion are heated by said heater during said thermally pressing.

11. (Original) The method of Claim 1, wherein said protrusions are in a V shape and said patterns formed on said optical element are V-shaped grooves.

12. (Currently amended) An apparatus for patterning an optical element with a thermal pressing process, comprising:

a lower mold with a carrier face for positioning said optical element thereon, and a plurality of cooling pipes constructed and arranged in said lower mold to cool said optical element during said thermal pressing process;

a holding component disposed on said carrier face for fixing ~~to fix~~ said optical element on said carrier face;

an upper mold with a pressing face corresponded to said carrier face and a plurality of protrusions of predetermined patterns being provided on said pressing face, said upper mold having a heater therein; and

a driving device connected to said upper mold to drive said upper mold toward said lower mold during said thermal pressing process.

13. (Original) The apparatus of Claim 12, wherein said plurality of cooling pipes is used to cool down said optical element during the thermal pressing process so as to prevent said optical element from bending.

14. (Previously presented) The apparatus of Claim 12, wherein said upper mold and said lower mold are made of copper alloy.

15. (Canceled)

16. (Canceled)

17. (Original) The apparatus of Claim 12, wherein said protrusions are in a V shape and said patterns formed on said optical element are V-shaped grooves.

18. (Original) The apparatus of Claim 12, wherein said optical element is a light guiding plate.

19. (Original) The apparatus of Claim 12, wherein said optical element is a diffusing sheet.

20. (Original) The apparatus of Claim 12, wherein said optical element is made of acrylic materials.